



USN

13MCA541

Fifth Semester MCA Degree Examination, Dec.2019/Jan.2020**Mobile and Adhoc Sensor Networks**

Time: 3 hrs.

Max. Marks:100

Note: Answer any FIVE full questions.

- 1 a. List and explain the different types of wireless networks depending on the criteria chosen for their classification. (06 Marks)
b. With a neat diagram, explain the functionalities of RF layer, baseband layer and link manager layer in Bluetooth protocol stack. (08 Marks)
c. Explain : i) Bluetooth ii) Bluetooth iii) BlueNet protocols used in scatternet formation in multihop Bluetooth network. (06 Marks)
- 2 a. Explain with the help of diagram localized routing methods. (10 Marks)
b. Explain cluster-based flooding. (10 Marks)
- 3 a. Discuss the need for the internet layer routing and dynamic wireless networks in Ad-hoc networks. (10 Marks)
b. Explain the typical design goals for Ad-hoc network routing protocols. (10 Marks)
- 4 a. Explain the wireless characteristics and applicabilities of MANET. (10 Marks)
b. Explain the route selection metrics for energy efficient communication in MANET. (10 Marks)
- 5 a. Explain the performance metrics used to estimate MANET's by simulation. (10 Marks)
b. What is path? Give any four examples of path problems. (10 Marks)
- 6 a. Explain the design constraints for wireless sensor networks. (10 Marks)
b. List and explain the various ranges of category 1 USN applications. (10 Marks)
- 7 a. Explain the four basic hardware subsystems of wireless nodes. (10 Marks)
b. Explain the design constructs for WSNs (Wireless Sensor Nodes) and WNs (Wireless nodes). (10 Marks)
- 8 Write a short notes on :
a. Destination-sequenced distance-vector (DSDV) protocol
b. Digital radio properties
c. Application of sensor networks
d. WN trends. (20 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.